

Khan Decl. Ex. B

March 7, 2011

**Best Buy's Opposition to Plaintiffs'
Preliminary Injunction Motion**

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Sent: Wednesday, September 22, 2010 5:01 PM
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Subject: NS-WBRDVD : Round 5 evaluation of candidate C&CS release : re: Conservancy v. Best Buy, et al.

After a productive technical-only discussion between Conservancy, BestBuy's technical staff, and Broadcom's technical staff, we were able to reach another plateau regarding the candidate source submission for the NS-WBRDVD. The end result is Conservancy's analysis below of BestBuy's round 5 C&CS candidate submission for the NS-WBRDVD product. There are issues that remain, but they are primarily of a different nature than previous issues; a more complete analysis was now possible since the software can actually be built.

Specifically, the issues identified below, in my opinion, now warrant direct attention from the lawyers. (Notwithstanding the very first item listed, but that is a technical issue that can be easily solved by BestBuy/Broadcom.)

Indeed, I believe that *technical* resolution of all of the issues below should be straightforward. However, it's likely the lawyers will want to review the issues listed and discuss them directly with their technical teams.

Meanwhile, Conservancy will await a sixth candidate C&CS candidate submission for the NS-WBRDVD product that addresses these issues below. Also (as discussed in the final item below), Conservancy awaits a first candidate for the NS-BDLIVE01, NS-BRDVD3, and NS-2BRDVD.

Finally, I'd like to offer my thanks in particular to Andy Brown of BestBuy; Andy has been extremely helpful in getting us to this point.

 NS-WBRDVD : Round 5 Analysis of Candidate C&CS release

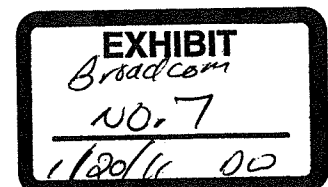
We analyzed the candidate C&CS source for the NS-WBRDVD firmware provided to use by BestBuy in the following file (with the following corresponding sha1sum):
 5cc47eb112c2a040eef3edf3269f1d1ee7023f71 BusyBox_091610.zip

While this source code does build, the following issues have been identified with the candidate source release:

* The build process does not properly install the bvdlibs binaries into usr/local in the squashfs image. Thus, the "scripts to control installation" for these files are not complete.

* Your firmware appears to have the functionality to do over-the-Internet upgrades, by having the firmware download a new version of itself. This is an additional act of distribution, and as such you should make an offer for source code to the user at the time they trigger an over-the-air upgrade. Can you confirm that such an new offer for source occurs, and show us how it is accomplished?

* The binary firmwares you've distributed have Linux version 2.6.24.7_524-uclibc-brcm but the sources provided built one numbered



2.6.24.7_356-uclibc-brcm. We therefore are somewhat concerned that perhaps the sources don't match the correct version of Linux that you are currently distributing.

* The binary firmwares you distribute contain the file "lib/modules/bcmdriver.ko", which is a derivative work of the kernel name Linux, but you have not included its complete and corresponding source code, as required by the GPL.

* The following .so files appear to not have source code. Given their nature, it seems that source for these files might be required under the terms of the LGPL, since directfb is LGPL'd. Please explain why source code was not included for these .so files, or include it.

- * usr/local/lib/directfb-0.9.22/gfxdrivers/libdirectfb_bcmgfx.so
- * usr/local/lib/directfb-0.9.22/systems/libdirectfb_bcm.so
- * usr/local/lib/directfb-0.9.22/interfaces/IDirectFBImageProvider/libdirectfbimageprovider_jpeg.so
- * usr/local/lib/directfb-0.9.22/interfaces/IDirectFBImageProvider/libdirectfbimageprovider_png.so
- * usr/local/lib/directfb-0.9.22/interfaces/IDirectFBVideoProvider/libdirectfbvideoprovider_bcm.so

* The following .so files included in your binary firmwares appear to us to be derivative works of FFMPEG, which means they are covered by the LGPL (and perhaps the GPL depending on how FFMPEG was used). However, we found no source code, nor offer for source code, nor scripts to control compilation nor installation of FFMPEG in the sources you provided.

- * usr/local/lib/libavcodec.so
- * usr/local/lib/libavcodec.so.52
- * usr/local/lib/libavcodec.so.52.20.0
- * usr/local/lib/libavformat.so
- * usr/local/lib/libavformat.so.52
- * usr/local/lib/libavformat.so.52.31.0
- * usr/local/lib/libavutil.so
- * usr/local/lib/libavutil.so.49
- * usr/local/lib/libavutil.so.49.15.0

* The following .so file appears to be a derivative work of either GNU gettext's libintl and/or uClibc, both of which are licensed under the LGPL. We note that sources for uClibc are included, but it does not appear your scripts to control compilation and installation build a copy of uClibc's libintl replacement. If this libintl is based on uClibc, you'll have to adjust the build process. If it turns out this libintl.so is based on GNU gettext, you will have to include that as well, as we don't see those sources included. You'll also need to fix the build system to install this file properly.

- * usr/local/lib/libintl.so

* The following .so file appears to be based on the LGPL'd portions of procps (libproc), which is LGPL'd. However, we do not find any source code, nor offer for source code, nor scripts to control compilation nor installation of FFMPEG in the sources you provided.

- * usr/local/lib/libproc-3.2.6.so (http://packages.debian.org/changelogs/pool/main/p/procps/procps_3.2.8-9/libproc-dev.copyright)

* It appears that you have not included any source code for the following .so files which appear in your binary firmwares. It's very possible these libraries are not based on nor are derivative of any GPL'd and/or LGPL'd software, and are not dynamically linked with any GPL'd software on the running system. If that is so, then please confirm for us in writing that it is so.

- * usr/local/lib/libCNWSLibAE.so
- * usr/local/lib/libCN_PlayerLibAE.so
- * usr/local/lib/libIAEKernel.so
- * usr/local/lib/libIAudioDecoder.so

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* usr/local/lib/libEDKExtensions.so
* usr/local/lib/libFL31NativeSoundOutput.so
* usr/local/lib/libFileSystem.so
* usr/local/lib/libFlashLib.so
* usr/local/lib/libGraphicsDriver.so
* usr/local/lib/libIO.so
* usr/local/lib/libImageDecoder.so
* usr/local/lib/libJSONParserLib.so
* usr/local/lib/libProcess.so
* usr/local/lib/libShell.so
* usr/local/lib/libSocket.so
* usr/local/lib/libStagecraft.so
* usr/local/lib/libStream.so
* usr/local/lib/libStreamPlayer.so
* usr/local/lib/libURLOps.so
* usr/local/lib/libVideoDecoder.so
* usr/local/lib/libXMLReaderLib.so
* usr/local/lib/libWVPlaybackAPI.so
* usr/local/lib/libWVStreamControlAPI.so
* usr/local/lib/libasf.so
* usr/local/lib/libasf_stubs.so
* usr/local/lib/libasfdrm.so
* usr/local/lib/libasfdrm_stubs.so
* usr/local/lib/libbdp.so
* usr/local/lib/libbdvd.so
* usr/local/lib/libbdvd_crypt.so
* usr/local/lib/libbdvd_drawingtoolkit.so
* usr/local/lib/libbdvd_drm.so
* usr/local/lib/libbdvd_png.so
* usr/local/lib/libbfd.so
* usr/local/lib/libcinemanow.so
* usr/local/lib/libcmdlnpars.so
* usr/local/lib/libcommon.so
* usr/local/lib/libbdj.so
* usr/local/lib/libdivxdrm_HD11.so
* usr/local/lib/libdrm.so
* usr/local/lib/libdrmbignum.so
* usr/local/lib/libdrmblackbox.so
* usr/local/lib/libdrmcore.so
* usr/local/lib/libdrmcrypto.so
* usr/local/lib/libdrmdevcert.so
* usr/local/lib/libdrmdevicedevcert.so
* usr/local/lib/libdrmmanager.so
* usr/local/lib/libdrmparms.so
* usr/local/lib/libdrmpkcrypto.so
* usr/local/lib/libdrmtoolscommon.so
* usr/local/lib/libloader.so
* usr/local/lib/libnandutils.so
* usr/local/lib/libnetapp.so
* usr/local/lib/libnetflix.so
* usr/local/lib/liboem_ansi.so
* usr/local/lib/libosapi.so
* usr/local/lib/libpandora.so
* usr/local/lib/libplayer.so
* usr/local/lib/librbufcap.so
* usr/local/lib/libsettop.so
* usr/local/lib/libsysinfo.so
* usr/local/lib/libvfs.1.0.0.so
* usr/local/lib/libvfs.so
* usr/local/lib/libturnkey.so
* usr/local/lib/libvudu.so
* usr/local/lib/libemwi_pp.so
* usr/local/lib/libssl.so
* usr/local/lib/libcrypto.so
* usr/local/lib/libcurl.so
* usr/local/lib/libcurl.so.4
* usr/local/lib/libcurl.so.4.1.1
* usr/local/lib/libexpat.so
* usr/local/lib/libexpat.so.1
* usr/local/lib/libexpat.so.1.5.2
* usr/local/lib/libjpeg.so.62.0
* usr/local/lib/libmng.so

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- * usr/local/lib/libmng.so.1
- * usr/local/lib/libmng.so.1.1.0.9
- * usr/local/lib/libpng.so
- * usr/local/lib/libpng.so.3
- * usr/local/lib/libpng.so.3.1.2.8
- * usr/local/lib/libpng12.so
- * usr/local/lib/libpng12.so.0
- * usr/local/lib/libpng12.so.0.1.2.8
- * usr/local/lib/libxml2.so
- * usr/local/lib/libxml2.so.2
- * usr/local/lib/libxml2.so.2.6.27

* Finally, we have previously identified for you three other products that we have confirmed include BusyBox and other GPL/LGPL'd software: Namely, the NS-BDLIVE01, NS-BRDVD3, and NS-2BRDVD. It does not appear that these sources you provided are also the complete and corresponding source for those other models as well, so we await candidate source release for those other three models.

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Bradley M. Kuhn

President, Software Freedom Conservancy (BusyBox's organizational home)